

REMARKS

The Applicant respectfully requests reconsideration in view of the following remarks.
The applicant respectfully requests that the withdrawn claims be rejoined.

Claims 1-3, 5, 7-14, and newly added claim 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over “Bridging the Gap between Polyfluorene and Ladder-Poly-p-phenylene: Synthesis and Characterization of Poly-2,k8-indenofluorene, *Macromolecules*, 2000, 33, 2016-2020” (Setayesh et al.) in combination with “Dissertation, Oligo-und Poly (indenofluorene)..., Mainz, 2000, pp. 27 and 115” (Reisch) and US 5,777,070 (Inbasekaran) and evidences “Assemblies of conjugated polymers, Intermolecular and intramolecular effects on the photophysical properties of conjugated polymers, *Pure Appl. Chem.*, Vol. 74, No. 11, pp. 2031-2044, 2002” (Kim). The applicant respectfully traverses this rejection.

The Examiner repeats the previous arguments from the last office action on pages 2 to 5 of the Office Action. The applicant incorporates their previous response into this reply.

On pages 6 and 7 of the Final Office Action, the Examiner gives “Response to Arguments”, which have been filed on April 04, 2009. With respect to these statements, Applicants respectfully have the following comments:

- 1.) The Examiner states on page 6, third paragraph of the Final Office Action, that on page 19 that Reisch teaches monomers for the Oligo- and Poly(idenofluorenes). A person of ordinary skill in the art knows, a monomer must have at least two reactive groups to give a polymer. The applicant does not see any such disclosure on page 19 of Reisch.
- 2.) The Examiner states on page 6, fourth paragraph, of the Final Office Action, that on page 115 that Reisch teaches a mechanism where at least trimers and pentsmers are formed. This statement is correct, but the Examiner didn’t recognize that these are ‘oligomers’ and not

“polymers” (see the applicant’s claim 25) and that these oligomers are “homo-oligomers”, because they do only contain “cis-indenofluorene” units and no other units.

3.) Furthermore, the Examiner states on page 6, second paragraph of the Final Office Action, that Reisch teaches polymers, because in the title it says: ‘Oligo and Poly(indenofluorenes)’. A statement given only in the title of such a dissertation is in the applicant’s opinion not a disclosure for a polymer. But even if such a title would be such a disclosure, it must be stated again, that according to the present invention, only copolymers are claimed which contain beside the structural unit of formula (I_r) at least a second repeating unit. Such copolymers are not disclosed in Reisch.

4.) With respect to Kim, the Examiner states on page 6, sixth paragraph of the Final Office Action,

“Kim evidences that strong intermolecular interferences deteriorate emission properties of conjugated polymers (see page 2040). Introducing of bulky Naphthalene group decreases the above interaction, since it is disturbing chain packing.”

The applicant fails to see what this statement has to do with the present invention. In the earlier Office Actions, the Examiner cited another passage relating to the introduction of cis-linkages in ParaPhenylene-Vinylene (PPV) polymers (see the page 4 of the Office Action mailed August 15, 2008, see the page 4 of the Office Action mailed January 14, 2009).

5.) With respect to the analysis of Table I of the specification of the present application, disclosed in this table is polymer 5 according to the present invention as well as comparative polymers 6 to 9. With respect to this table, the Examiner states in the first full paragraph at page 7 of the Final Office Action, that the “data of Table 1 shows that isomerisation is just one of a few parameters, determining the properties of the polymer.” This statement is true for the

comparison of polymer 5 with polymers 7 to 9, because these polymers not only differ with respect to the cis/trans-isomerization but also differ with respect to the substitution groups.

However, this statement is not true for the comparison of polymer 5 with polymer 6, because in this case, both polymers differ only with respect to the cis/transisomerization. Consequently, in this case, isomerisation is the only parameter wherein both polymers differ and therefore, the different properties are directly a result of this difference! It is correct as stated by the Examiner that comparative polymer 6 has a slightly better half life of 140 hours compared to 120 hours of the inventive polymer. Nevertheless, the Examiner should recognize that there are four other properties of the polymers which are described (i.e. "V at 100 cd/m²", "Colour Shift", " ΔV^3 " and "% Burn in"). **With respect to these four properties, the polymer according to the present**

invention has significant better properties than the comparative example 6. In particular, the % burn is only 3% for example 5 versus 12% for comparative example 6. This is a factor of 4 greater. The color shift was 0.03 for example 5 compared to 0.06 for comparative example 6. This is half the shift compared to comparative example 6. The ΔV^3 was 1.0 for example 5 versus 2.8 for comparison example 6. The ΔV^3 is about one third the value for the applicant's example 5 compared to comparative example 6. Lastly, the V at 100 cd/m³ is 4.3 for example 5 compared to 5.7 for comparative example 6. Each of these improvements in combination was not obvious for a person of ordinary skill in the art. For the above reasons, the applicant respectfully request that this rejection be withdrawn.

Applicant believes no fee is due with this response. However, if a fee is due, the Commissioner is authorized to charge or credit any overpayment to Deposit Account No. 03-2775 under Order No. 14113-00027, from which the undersigned is authorized to draw.

Dated: September 14, 2009

Respectfully submitted,

Electronic signature: /Ashley I. Pezzner/
Ashley I. Pezzner
Registration No.: 35,646
CONNOLLY BOVE LODGE & HUTZ LLP
1007 North Orange Street
P. O. Box 2207
Wilmington, Delaware 19899-2207
(302) 658-9141
(302) 658-5614 (Fax)
Attorney for Applicant